Intermountain Power Service Corporation
Boiler Uprate Study

Scope of Work

General: The purpose of this study is to provide recommendations covering required physical and operating procedure modifications for increasing boiler rated output by approximately 5%. This uprate is associated with the retrofit of a high performance, high pressure turbine section on both Units 1 and 2.

Scope of Work: The scope of this study shall include a design and operational review of the following items, at a rated boiler output of approximately 6,900,000 lbs/hr steam flow:

1. Furnace circulation system capacity
2. Furnace heat release/absorption capability
3. Steam drum flow handling capacity
4. Boiler metal temperature evaluation and accelerated life consumption estimates
5. Superheat and reheat temperature control and stability design and operational review
6. Operating pressure and pressure drop limitations
7. Safety valve capacity and set pressure design, maintenance and operational review
8. Combustion air and gas flow analysis
9. FD, PA and ID fan capabilities and operational limitations
10. Pulverizer system limitations and performance enhancement recommendations
11. Increased heat input effects on boiler system including burners , ignitors and scanners
12. Boiler tube shielding survey and associated impact on performance
13. Analysis of current combustion practices focusing on NOx reduction and latest NOx technologies

B&W shall assist in the development and execution of two operational tests of at least 4 hour duration each. One of the tests including a full sootblowing cycle. Data from these tests shall form the basis for the computer-based boiler model uprate diagnostics completed by B&W.

B&W shall also participate in one, on-site, off-line inspection, of approximately two days duration, for first hand awareness of current boiler status and for interviewing IPSC personnel regarding operational procedures and concerns.

Products of Study: The product resulting from this study shall consist of a comprehensive written report provided in triplicate to IPSC, within 12 weeks of issuance of a purchase order. The report shall include the following:
- Boiler design modification recommendations
- Estimates for each implementing each recommendation
- Detailed description of each operating procedure recommendation
- Component specific information regarding the calculated effects of the uprate
- All testing data collected throughout the study

Recommendations included within this report shall be confirmed by the collection and consideration of current operating and design data, as well as, implementation of a representative, computer-based, boiler model. B&W retains full responsibility for the correctness and adequacy of any design information provided by IPSC to B&W. B&W should verify all design and operating information provided by IPSC through on-site inspection, performance testing and from within original design files at B&W, prior to use within this study.

Coordination: B&W shall appoint a project manager who shall be responsible to provide weekly updates to IPSC regarding progress of the study, discuss interim concerns on data or preliminary results and coordinate on-site inspections and testing. B&W shall also coordinate their analysis with representatives of other equipment manufacturers designated by IPSC, to ensure operational compatibility among all interfacing systems and equipment.